ABSTRACT OF THE DISCLOSURE

A method and apparatus for combining data packets having different protocol encapsulations within a circuit is described. In one embodiment, a method includes receiving a number of Internet Protocol (IP) packets over Ethernet on a real circuit. Each IP packet over Ethernet has an Ethernet header and an IP address. The method also includes removing the Ethernet header from the number of IP packets. Moreover, a number IP packets within a Point-to-Point Protocol (PPP) over Ethernet are received on at least one virtual circuit. Each of the number of IP packets within the PPP over Ethernet includes a PPP header, a PPP over Ethernet (PPPoE) header, an Ethernet header and an IP address. Additionally, the at least one virtual circuit runs within the real circuit. The method also includes removing the PPP header and the PPPoE header from the number of IP packets within the PPP over Ethernet and removing the Ethernet header from the number of IP packets within the PPP over Ethernet. The number of IP packets over Ethernet and the number of IP packets within PPP over Ethernet are forwarded based on the IP address.